

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Application No. : 10/541,246 Confirmation No.: 5820  
Applicant(s) : Mark L. Lawrence  
Filed : September 12, 2006  
Title : Methods of preparation of live attenuated bacterial vaccine by  
alteration of dna adenine methylase (*dam*) activity in those bacteria  
TC/A.U. : 1645  
Examiner : Navarro, Albert Mark  
Docket No. : 028186.61646

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**DECLARATION UNDER 37 C.F.R. §1.132**

Commisioner:

I, Mark L. Lawrence, do hereby declare the following:

- (1) I am a named inventor of the subject matter of the above-identified patent application.
- (2) I am an Associate Professor at the College of Veterinary Medicine at Mississippi State University with my primary areas of expertise being bacterial pathogenesis, molecular microbiology, and aquatic animal health. I received my Bachelor of Science degree in 1988 from Texas A&M University, a Doctorate of Veterinary Medicine from Texas A&M University in 1990, a Ph.D. in 1997 from Louisiana State University, and performed Post Doctoral work at Virginia Tech.
- (3) Prior to our discovery of the *dam* gene in *Pasteurella multocoda*, its existence was unknown.
- (4) We discovered the *dam* gene's presence in *Pasteurella multocoda* as early as 1999.

- (5) Exhibit A is attached as evidence of our early discovery of the *dam* gene in *Pasteurella multocida*. It consists of true pages from my laboratory notebook dated 2/15/00 to 2/21/01 and demonstrates functional DNA adenine methylase in *Pasteurella multocida* and *Mannheimia haemolytica*.
- (6) The earliest GenBank entry for *Pasteurella multocida dam* gene is August 2003, and was deposited by us. It can be found at "GenBank: AF411317.1" Exhibit B is a true copy of the webpage showing this entry.
- (7) The earliest PubMed reference to the *Pasteurella multocida dam* gene is from my lab: "Chen L, Paulsen DB, Scruggs DW, Banes MM, Reeks BY, Lawrence ML. Alteration of DNA adenine methylase (Dam) activity in *Pasteurella multocida* causes increased spontaneous mutation frequency and attenuation in mice. Microbiology. 2003 Aug;149(Pt 8):2283-90. PubMed PMID"

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.



Mark L. Lawrence

Date: 5/1/09